

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554**

In the Matter of:

The Establishment of Policies and Service
Rules for Non-Geostationary Satellite Orbit,
Fixed Satellite Service in the Ka-Band

IB Docket No. 02-19

COMMENTS OF @CONTACT LLC

Todd Stansbury
Jennifer Hindin
Rebekah Goodheart
of
Wiley Rein & Fielding LLP
1776 K Street, N.W.
Washington, DC 20006-2304
202.719.7000
Its Attorneys

April 3, 2002

SUMMARY

@contact applauds the Commission's decision to facilitate competition by issuing licenses to all five applicants seeking primary spectrum in the long-pending Ka-band NGSO FSS Second Round proceeding. @contact also strongly supports the FCC's determination to allow the marketplace, rather than regulation, to direct how these systems will be implemented. The ITU date for bringing these systems into use and the need to jumpstart competition in satellite services necessitate a means of allocating and sharing spectrum that allows licensees to go forward with the development, construction and launch of their systems as rapidly as possible. @contact submits that one of the three methods of band segmentation proposed by the Commission is the only means by which the FCC's objectives can be achieved within the available time.

Segmentation will facilitate sharing between Second Round licensees and Teledesic LLC, the incumbent licensee. As an initial matter, Teledesic LLC's recently filed application for a complete redesign of its five-year old licensed Ka-band system is a major modification subject to consideration after the conclusion of the licensing decisions made by the Commission in this Second Round proceeding. At a minimum, Teledesic has made no progress in the construction of its *authorized* system and, accordingly, has demonstrated the flexibility to make additional changes, if necessary, to its system to facilitate coordination with Second Round systems. Segmentation, which the Commission has recognized is a legitimate means for spectrum sharing between Teledesic and Second Round licensees, would best promote multiple entry by establishing unambiguous duties of coordination between all parties.

Band segmentation is administratively simple so that, unlike any other method of allocating and sharing spectrum, licenses could be issued immediately to all parties. In addition, segmentation does not favor a particular technology or dictate, by regulatory fiat, a particular

system design that must be adhered to as a condition of licensing. Accordingly, each system would be treated equitably, and the Commission's involvement in ongoing coordination matters would be minimized.

Moreover, segmentation would provide all operators with the guaranteed access to capacity and the regulatory certainty they need to proceed with the construction and launch of their services. Through clear and concise procedures for accessing a guaranteed amount of spectrum on a priority right, and all remaining spectrum on a secondary basis, all available spectrum would be put to use by operating systems. Critically, segmentation and the prompt issuance of licenses would provide all parties with the right, incentive and opportunity to enter into mutually advantageous sharing arrangements post-licensing to increase spectrum access. Thus, segmentation would be merely the starting, rather than the end, point in the band sharing process.

Neither of the remaining methods of allocating and sharing spectrum considered in this proceeding could deliver the operational benefits of segmentation or provide any chance that services could commence by the date needed to preserve U.S. ITU date priority. The alternative regimes, especially *Avoidance of In-Line Events*, would require extensive, time-consuming analysis of highly complex technical issues in order to develop appropriate sharing criteria. Either mechanism would also require the FCC to mandate precise technical terms by which each system would have to be designed and operated. As a result, the ultimate form of sharing would be unnecessarily dictated by FCC *rule*, rather than by negotiated sharing relationships developed by the licensees.

Finally, @contact agrees with the changes proposed by the Commission with respect to various NGSO FSS service rules.

TABLE OF CONTENTS

	Page
I. INTRODUCTION	1
II. IN LIGHT OF THE SUBSTANTIAL REDESIGN OF TELEDESIC’S SYSTEM, THE INCUMBENT LICENSEE’S COORDINATION PRIORITY SHOULD BE CONSIDERED IN A THIRD PROCESSING ROUND; IN THE ALTERNATIVE, TELEDESIC AND SECOND ROUND LICENSEES HAVE AN EQUAL BURDEN OF THE DUTY TO SHARE	4
III. ALLOCATING AND COORDINATING SPECTRUM ON THE BASIS OF BAND SEGMENTATION PROVIDES THE BEST OPPORTUNITY FOR RAPIDLY PLACING NEW NGSO SERVICES INTO OPERATION CONSISTENT WITH THE COMMISSION’S POLICY OBJECTIVES.....	8
A. Segmentation Allows The Marketplace To Guide The Implementation Of NGSO FSS Systems.....	8
B. Segmentation Ensures That All Available Spectrum Is Promptly Put In Service.....	9
C. Segmentation Maximizes Flexibility To Adapt Systems To Coordinate In The Manner That Best Responds To Market Demands.....	10
D. The Allocation And Coordination Of Spectrum Pursuant To Band Segmentation Will Best Promote The Prompt Initiation Of New Satellite Services	12
IV. AVOIDANCE OF IN-LINE INTERFERENCE EVENTS WOULD ALLOW REGULATION TO UNNECESSARILY DICTATE THE FORM OF COORDINATION AND, ULTIMATELY, DELAY THE LICENSING AND INITIATION OF KA-BAND NGSO FSS SERVICE	14
V. A HOMOGENEOUS CONSTELLATIONS APPROACH WOULD LIMIT FLEXIBILITY IN SYSTEM IMPLEMENTATION AND POTENTIALLY IMPOSE UNNECESSARY AND BURDENSOME DESIGN CHANGES	17
VI. SERVICE RULES	19
A. Financial Qualifications	19
B. Implementation Milestones.....	20
C. Report Requirements	20
D. Orbital Debris Mitigation.....	21
E. System License And License Term	21
VII. CONCLUSION.....	21

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554**

In the Matter of:

The Establishment of Policies and Service
Rules for Non-Geostationary Satellite Orbit,
Fixed Satellite Service in the Ka-Band

IB Docket No. 02-19

COMMENTS OF @CONTACT LLC

@contact LLC (“@contact”), by its attorneys, files these comments in support of the Federal Communications Commission’s (“FCC” or “Commission”) proposal to license all five applicants seeking access to Ka-band spectrum designated on a primary basis to non-geostationary satellite orbit (“NGSO”) fixed-satellite service (“FSS”) systems in the second processing round (“Second Round”). As a Second Round applicant, @contact encourages the Commission as promptly as possible to resolve the issues raised in the Notice of Proposed Rulemaking (“*Notice*”)¹ and to issue licenses for new competitive NGSO services.

I. INTRODUCTION

@contact applauds the Commission’s decision to license the five pending Second Round applicants. This critical decision will allow the marketplace, rather than regulatory fiat, to define the systems and determine their chances for success. @contact agrees that this approach

¹ *Establishment of Policies and Service Rules for the Non-Geostationary Satellite Orbit, Fixed Satellite Service in the Ka-Band*, IB Docket No. 02-19, FCC 02-30 (Feb. 6, 2002) (Notice of Proposed Rulemaking) (“*Notice*”); summary notice of proposed rulemaking published as *Non-geostationary Satellite Orbit, Fixed Satellite Service in the Ka-band*, 67 Fed. Reg. 9641 (March 4, 2002) (notice of proposed rulemaking).

provides the best opportunity for the authorized spectrum to be most promptly and productively put to use for the benefit of U.S. consumers.²

To accomplish these objectives, @contact agrees with the Commission that each Second Round applicant should receive a license to operate across the full 1000 MHz of Ka-band spectrum allocated on a primary basis to NGSO FSS systems (*i.e.*, 18.80-19.30 GHz and 28.60-29.10 GHz).³ @contact also concurs that this spectrum is sufficient “to accommodate all five Second Round proposals and the First Round licensee [Teledesic LLC] under a comprehensive and coordinated spectrum sharing approach.”⁴ As the Commission recognized, the spectrum needs of the applicants will likely be “modest” initially,⁵ which provides maximum flexibility at this time to select the licensing approach that best expedites licensing and leaves implementation decisions to the marketplace.

As the Commission is aware, the time to authorize and implement these systems is critically short. The ITU “bring into use” date, which the Commission has proposed to adopt as

² Notice, ¶ 2.

³ Notice, ¶ 2. The FCC also proposed to license NGSO FSS uplink operations on a secondary basis in the 28.35-28.60 GHz band. Notice, ¶ 10.

⁴ Notice, ¶ 12. In comments filed with respect to Teledesic LLC’s (“Teledesic”) recent modification application, Hughes Communications, Inc. (“Hughes”) asks the Commission to consider the adoption of EPFD power limits in primary NGSO spectrum (18.8-19.3 GHz and 28.6-29.1 GHz), allegedly to facilitate coordination between NGSO and GSO systems. *Comments of Hughes Communications, Inc.*, FCC File Nos. 22-DSS-P/LA-94 *et al.* at 10-11 (March 18, 2002). The limits suggested by Hughes, which holds licenses for numerous Ka-band GSO systems, were devised for situations in which NGSO services would be *secondary* in nature. Hughes’s proposal, in contrast, would impose EPFD limits on NGSO spectrum that is primary domestically and co-primary internationally. Accordingly, the adoption of EPFD limits in these bands would improperly and unnecessarily impose operational limits on U.S. licensed NGSO systems and should not be entertained. @contact would support the consideration of EPFD limits in other frequency bands that could be allocated to Ka-band NGSO FSS use on a secondary basis.

⁵ Notice, ¶ 21.

the operational milestone date for systems authorized pursuant to this proceeding is, at most, three years away.⁶ This is one year *less* than the time typically needed to design and construct a new NGSO satellite system. Thus, in order for Second Round operators to have any chance of putting their systems into operation by the date needed to preserve U.S. priority in international coordination, the FCC must issue licenses as quickly as possible in a manner that minimizes all regulatory constraints in the operation and coordination of the individual systems.

The expeditious issuance of licenses will also benefit competition. As the Commission's recent satellite streamlining NPRM found, licensing delays harm competition to the detriment of consumers by postponing the introduction of new services to the public.⁷ While Second Round systems have been eagerly awaiting licenses since 1997, the incumbent licensee, Teledesic, apparently has taken no action to implement its system as authorized. Accordingly, promptly authorizing the Second Round systems will enable all NGSO FSS systems immediately to

⁶ Notice, ¶ 40, n.62. The ITU deadline for Second Round systems is May 18, 2003, with a possible two-year extension.

⁷ *Amendment of the Commission's Space Station Licensing Rules*, FCC 02-45, IB Docket No. 02-34, ¶¶ 13-14 (Feb. 28, 2002) (Notice of Proposed Rulemaking and First Report and Order) ("*Satellite Streamlining NPRM*") (explaining that "[i]f there is a delay in licensing a system, there will be a delay in both the cost associated with developing the satellite system and the benefits that will be realized."). The Commission found that "if a system would come into service three years after licensing, the present value of the cost of a two year delay in licensing would be approximately \$1.7 million for each million dollars of expected net annual benefits, assuming an interest rate of 5 percent." *Id.*, ¶ 14 (internal citations omitted). See *United States v. FCC*, 652 F.2d 72, 95 (D.C. Cir. 1980) ("Ever since the decision in *Domsat II* the FCC has designed its procedures to minimize delay in developing the domestic satellite communications industry. This court has specifically approved that approach. *Network Project v. FCC*, 511 F.2d [786], 797 n.13. In this dynamic and technologically innovative industry, a proposed venture may become obsolete in just a few years. Even without regulatory delay, a satellite firm is faced with the daunting prospect of time-consuming research and construction, which entail advance planning and risky lead time--and which may lead to naught. To delay a proposed project six months will increase capital cost and diminish technological advantage; to delay it a year or more may destroy its attractiveness as an investment.")

commence system implementation and to introduce competitive services for the benefit of the public interest.

@contact submits that segmentation is the only licensing mechanism that would permit the Commission to issue licenses in time for systems to be constructed, launched and placed into service in the available time. The Commission's proposed means of segmentation would allow the market to determine how systems will ultimately be implemented. By licensing all applicants across the full 1000 MHz of spectrum, segmentation also would ensure that all spectrum would be immediately put to use for the benefit of consumers. Finally, segmentation would provide all licensees with the greatest degree of flexibility to coordinate their systems post-licensing and to maximize use of spectrum, without the need or encumbrance of regulatory intervention, in order to best meet their service objectives. As a result, @contact urges the Commission to license and coordinate Second Round systems (and, to the extent necessary, Teledesic) on the basis of band segmentation.

II. IN LIGHT OF THE SUBSTANTIAL REDESIGN OF TELEDESIC'S SYSTEM, THE INCUMBENT LICENSEE'S COORDINATION PRIORITY SHOULD BE CONSIDERED IN A THIRD PROCESSING ROUND; IN THE ALTERNATIVE, TELEDESIC AND SECOND ROUND LICENSEES HAVE AN EQUAL BURDEN OF THE DUTY TO SHARE

In the *Notice*, the Commission requested comment on spectrum sharing among Second Round licensees and Teledesic, the incumbent licensee.⁸ Although Teledesic has held a license for five years, Teledesic just informed the FCC that it has abandoned its licensed 288 satellite low-Earth-orbit ("LEO") system because it apparently is not "realistic."⁹ Consequently,

⁸ *Notice*, ¶¶ 14, 22.

⁹ *Application of Teledesic LLC for Minor Modification of License to Construct, Launch, and Operate a Non-Geostationary Fixed Satellite System*, File No. SAT-MOD-20020201-00011, at A-29 (Jan. 31, 2002) ("*Teledesic Modification Application*").

Teledesic filed an application proposing a complete redesign that, for all purposes, would require a new license.¹⁰ Specifically, Teledesic proposed to increase its orbital altitude nearly tenfold, employ steerable spot-beam antennas, eliminate its proposed “gigalinks,” and modify substantially the number of orbital planes, the number of satellites per plane, orbital inclination, and power levels.¹¹ Since Teledesic’s proposed changes could frustrate sharing, the application is a major modification that must be considered in a third processing round after the conclusion of the ongoing proceeding.¹²

In the event the Commission concludes that, despite the total redesign of the satellite system, Teledesic’s modification is not a major change, at a minimum, Teledesic now possesses the same burden of coordination as all Second Round applicants with respect to any sharing plan adopted pursuant to this *Notice*. Teledesic’s original 1997 license imposed a duty on the incumbent licensee to “share the burden” of coordination with future applicants to ensure opportunities for multiple entry.¹³ The agency recently clarified this duty by confirming that if

¹⁰ *Teledesic Modification Application; Satellite Policy Branch Information, Satellite Space Applications Accepted for Filing*, Report No. SAT-00101 (Feb. 14, 2002) (Public Notice) (accepting for filing Teledesic’s modification application); “*Teledesic Readies Satellite Construction Agreement for Broadband Internet-in-the-Sky Network*” (Feb. 1, 2002), available at www.teledesic.com/newsroom/articles/02-01-2002.html (last visited on April 1, 2002). In the *Notice*, the FCC recognized that “modified systems that are significantly different from the system as authorized may be considered a new system and treated on equal footing with new or subsequent processing groups.” *Notice*, n.36.

¹¹ *See Opposition of @contact LLC*, File No. SAT-MOD-20020201-00011, at 3-4 (filed Mar. 18, 2002) (providing a chart identifying Teledesic’s proposed system modifications).

¹² *See id.* at 17; *see also Comments of Hughes Communications, Inc.*, at 1-3, File Nos. 22-DSS-P/LA-94 et al. (filed March 18, 2002); *Comments of TRW, Inc.* at 4, File No. SAT-MOD-20020201-00011 (filed March 18, 2002).

¹³ *Teledesic LLC for Modification of License to Construct, Launch, and Operate a Non-Geostationary Fixed Satellite Service System*, 14 FCC Rcd 2261, 2272 (1999) (Order and Authorization) (“*Teledesic Modification Order*”), *recon. pending*.

Teledesic failed to construct its system as authorized, it could reasonably be expected to make system changes to facilitate future entry, and its burden to share would increase accordingly.

The Commission explained:

While Teledesic must also coordinate with second round NGSO systems in good faith, we recognize that the farther along a licensee is in the construction of its system, the less flexibility it has to redesign its system to accommodate new entrants. For example, if Teledesic, which was licensed in 1997, has already contracted for and constructed major components of its authorized system, it would not have the same degree of flexibility to redesign its system as would entities not yet licensed. Conversely, if Teledesic has not yet finalized its system parameters, as would be evidenced by a subsequent application for authority to modify its licensed system, we would view Teledesic in a much better position to make additional changes to facilitate coordination with additional systems.¹⁴

Teledesic's proposal to launch an entirely new system demonstrates precisely the lack of progress toward building its "authorized system" anticipated by the Commission. Specifically, the modification application, which was filed on the eve of expiration of the construction commencement milestone, confirms that Teledesic has not made, and will not make, any progress in the construction of its authorized "288-satellite design that neither Teledesic nor anyone else intends to build."¹⁵ Indeed, its contract, executed two months ago, appears to be for the construction of the first two satellites of a 12-satellite phase of a 30-satellite middle-Earth-orbit ("MEO") constellation proposed in the modification application. The contract, which is

¹⁴ Notice, ¶ 14. See also *Teledesic Corporation Petition for Clarification And/Or Reconsideration*, CC Docket No. 92-297, FCC 02-6 (Feb. 6, 2002) (Memorandum Opinion and Order) ("*Teledesic Reconsideration Order*").

¹⁵ *Response of Teledesic LLC to Objection of @contact LLC* at 7, File Nos. 22-DSS-P/LA-94 et al. (March 15, 2002).

terminable at will by Teledesic, also demonstrates that the design concept of the system is still in its infancy, and can be modified with little, if any, burden on Teledesic.

Including Teledesic in the sharing plan adopted in this proceeding, including band segmentation, would impose neither a surprise nor an operational burden on Teledesic.¹⁶ Since 1997, the Commission has repeatedly indicated its willingness to “subdivide the spectrum” licensed to Teledesic if necessary to accommodate new entrants.¹⁷ Thus, in addition to furthering all of the policy objectives articulated by the Commission in the *Notice*, segmentation would be an appropriate means, in the absence of subjecting Teledesic’s modification application to a third processing round, of establishing clear and appropriate duties of coordination between Second Round licensees and Teledesic.

¹⁶ One year ago, @contact recommended that the FCC defer resolution of the coordination issues between Teledesic’s licensed LEO constellation and Second Round systems until after the issuance of licenses. *Letter from Todd M. Stansbury, Attorney for @contact LLC, to Magalie R. Salas, Secretary, FCC re: @contact LLC Ex Parte Presentation* in File No. SAT-LOA-19971222-00222, at 9 (dated Apr. 30, 2001). The FCC has since clarified Teledesic’s duties with respect to coordination, and Teledesic has abandoned its licensed system. These events have eliminated the uncertainty regarding Teledesic’s sharing responsibilities that existed at the time of @contact’s April 2001 letter. Accordingly, the Commission should promptly determine whether Teledesic’s modified system will be held pending a third processing round or subject to coordination on an equal basis with Second Round systems. Of course, the issuance of licenses in the Second Round need not, and should not, be withheld pending the resolution of Teledesic’s status. Rather, allocation and sharing of spectrum by segmentation, as @contact proposes, provides flexibility to the Commission to proceed with licensing subject to the ultimate outcome in Teledesic’s modification proceeding.

¹⁷ *Notice*, ¶ 9; see also *Teledesic Reconsideration Order*, ¶ 9; *Teledesic Corporation Application for Authority to Construct, Launch, and Operate a Low Earth Orbit Satellite System in the Domestic and International Fixed Satellite Service*, 12 FCC Rcd 3154, 3157-58 (1997) (Order and Authorization) *modified by Teledesic Modification Order*, 14 FCC Rcd 2261 (1999), *recon. pending*.

III. ALLOCATING AND COORDINATING SPECTRUM ON THE BASIS OF BAND SEGMENTATION PROVIDES THE BEST OPPORTUNITY FOR RAPIDLY PLACING NEW NGSO SERVICES INTO OPERATION CONSISTENT WITH THE COMMISSION’S POLICY OBJECTIVES

The *Notice* identifies three segmentation alternatives: “*Flexible Band Segmentation*,” “*Dynamic Band Segmentation*” and “*Band Segmentation Plus Coordination*,” the latter of which @contact proposed in an April 2001 submission to the Commission.¹⁸ @contact believes that all three approaches are, from a functional perspective, substantially similar and will satisfy the FCC’s objectives set forth in the *Notice*. As discussed below, each of these segmentation proposals will: (1) allow the marketplace, rather than regulation, to determine the most effective implementation of NGSO FSS systems;¹⁹ (2) prevent spectrum warehousing by non-implemented systems to the detriment of operational systems;²⁰ and (3) provide much-needed, and technologically neutral, flexibility to encourage licensees to share spectrum efficiently as they proceed with the design and implementation of their respective systems.²¹ In addition, segmentation provides the best opportunity for the initiation of competitive services in time to preserve ITU priority for Second Round systems.

A. Segmentation Allows The Marketplace To Guide The Implementation Of NGSO FSS Systems

The greatest advantage of segmentation as a basis for licensing and coordination is its simplicity—unlike any other regime, it is easy to define and implement. This appropriately reduces to a minimum the Commission’s involvement in the design and coordination of NGSO

¹⁸ See *Notice*, ¶22 (citing Letter from Todd Stansbury, Counsel for @contact LLC, to Magalie Roman Salas, Secretary FCC, dated June 11, 2001).

¹⁹ *Notice*, ¶ 13.

²⁰ *Notice*, ¶ 15.

²¹ *Notice*, ¶ 16.

systems, and leaves to the parties the greatest degree of freedom to decide, individually and cooperatively, the best means of delivering service to the public.

Segmentation does not presuppose or mandate any particular system design and, as a result, can accommodate all currently licensed and proposed systems. As the Commission recognized, each of the NGSO systems, including Teledesic's, varies widely in technology, number of satellites, orbital inclinations and constellation design. Because spectrum division—as a starting point for coordination—is technically neutral, the deployment of these diverse satellite system designs is possible. As a result, the market will be the ultimate guidepost for determining how systems will be implemented and coordinated.

Segmentation also allocates an equal, and sufficient, amount of spectrum to all licensees for use on a priority and coordinated basis. In particular, segmentation proportionally allocates spectrum-sharing responsibility among all systems, and does not provide any unfair advantage to any operational system. Every operator, including Teledesic if considered on par with Second Round applicants, would have the same opportunity to initiate service, to occupy a pro-rata share of spectrum without concern of interference, and (as discussed below) to coordinate with other licensees for the right to operate on additional spectrum according to mutually and privately negotiated terms.

B. Segmentation Ensures That All Available Spectrum Is Promptly Put In Service

Segmentation furthers the FCC's objective of protecting against spectrum warehousing. Under the segmentation plans supported by @contact, all 1,000 MHz of uplink and downlink spectrum will be licensed to each applicant and available for immediate use by *operational* systems. As a result, spectrum that is allocated to, but not used by, a particular licensee will be

put into service on a pro-rata basis by other operational systems.²² For example, the first operational system has an uncontested right to bring into use the entire Ka-band spectrum allocated on a primary basis to NGSO FSS systems. Upon the launch of subsequent systems, each operator would have a priority right to use a pro-rata share of spectrum and, upon conclusion of a coordination agreement with another operator, take advantage of the common use of additional spectrum. Consequently, under segmentation, systems that are licensed, but not operational, would have no means of warehousing spectrum.

C. Segmentation Maximizes Flexibility To Adapt Systems To Coordinate In The Manner That Best Responds To Market Demands

The hallmark of segmentation as a means of allocating and coordinating the use of spectrum is the flexibility that it would afford all operators to coordinate their systems in the manner that they best see fit. At the least, each Second Round applicant and Teledesic (if considered equally with the Second Round) would have the priority right to use a minimum of 1/6 of the available spectrum. @contact agrees with the Commission that, in light of the numerous opportunities that all operators will have to negotiate coordination agreements, sufficient spectrum exists for each party to proceed with the development and launch of its system.²³ The segmented spectrum, however, would merely be the starting point. At any time after licensing, providers would be free to negotiate sharing arrangements to increase their spectrum access to best meet their respective needs. Notably, segmentation would not preclude future use of any of the other sharing methods proposed in the *Notice*, including the “*Avoidance*

²² Even under the *Flexible Segmentation Plan*, if no coordination agreement is in place, operational systems segment any unused spectrum. *Notice*, ¶ 20.

²³ This is further supported by the Commission’s conclusion that “NGSO FSS licensees [will] have spectrum requirements that initially will be modest, but will increase following commencement of commercial operations.” *Notice*, ¶ 21.

of In-Line Interference Events” (“*In-Line Events*”) and “*Homogeneous Constellations.*” In addition to preserving these coordination options, segmentation enables licensees to develop innovative sharing techniques to maximize spectrum usage through state-of-the-art technology in ways that may not currently be feasible or contemplated.

In fact, licenses issued pursuant to segmentation will provide the necessary impetus for affected parties to develop coordination agreements. Without a license, applicants have little or no incentive to engage in the time consuming and costly process of developing a real-world sharing agreement. However, the issuance of licenses motivates operators to conclude mutually beneficial agreements so that each system can maximize spectrum usage. In addition, deferring the final form of spectrum sharing until post-licensing will facilitate negotiations because the details of coordination would be decided with respect to actual designs, rather than hypothetical paper systems that, as Teledesic has proven, may be radically reengineered prior to launch. Thus, it would be more efficient to license pursuant to segmentation now and allow the licensees, once they have entered into construction contracts, to pursue coordination negotiations on a firmer, more meaningful, basis. Moreover, if certain licensees lose their licenses for failure to satisfy milestones, there may be less systems to coordinate thus further simplifying the sharing burden.

Finally, segmentation provides licensees with equal access to spectrum outside of U.S. borders, consistent with the spectrum allocations in other countries.²⁴ @contact believes that all parts of the segments are essentially fungible and, therefore, no one segment within the 500 MHz of primary spectrum is more advantageous internationally than another segment. As a result, segmentation will not materially inhibit any licensee’s ability to deliver international service.

²⁴ Notice, ¶ 17.

D. The Allocation And Coordination Of Spectrum Pursuant To Band Segmentation Will Best Promote The Prompt Initiation Of New Satellite Services

Segmentation is the best means for encouraging the early initiation of service because, unlike all other proposals, it allows the FCC immediately to issue licenses -- which is of utmost necessity and in the public interest. For example, even if the FCC issued licenses today, to meet the ITU bring into use deadline,²⁵ Second Round applicants have no margin of error with regard to designing and implementing their systems. While Commission rules allow for the construction of satellites prior to the issuance of an authorization, as a practical matter, there is no feasible way to commence construction activity in this instance without a license. In these economic times, potential investors reasonably demand the certainty of a Commission authorization. As a result, any additional delay in licensing greatly threatens the ability of Second Round applicants to bring their systems into use, as may be *required* under the FCC's proposed rule, in time to preserve the hard-won U.S priority in international coordination.

Given these exigent circumstances, prompt grant of licenses pursuant to band segmentation will provide clear public interest benefits. The issuance of licenses now will provide operators with the capacity and certainty they need to begin implementing their systems immediately. Thus, segmentation would allow system development *and* coordination to proceed in a timely fashion along parallel paths simultaneously. By contrast, as discussed below, the

²⁵ Under rule changes adopted during the 1997 World Radiocommunication Conference, Second Round applicants are afforded only five years from the date their Advance Publication ("AP") information was *received* to bring their satellite systems into use. See International Telecommunication Union Radio Regulations S11.44, as amended by the World Radiocommunication Conference 2000 (Istanbul). As a result, the ITU deadline may run as early as May 18, 2003. A two-year extension may be possible under certain circumstances. Even assuming extensions may be warranted, the latest possible date to bring into use at least one satellite by each of the Second Round NGSO FSS applicants before U.S. priority expires is May 18, 2005.

alternative licensing approaches, *In-Line Events* and *Homogeneous Constellations*, would first require the consideration and conclusion of time-consuming and complex coordination negotiations among all the applicants (and potentially Teledesic), *before licensing*. Moreover, given the Commission's recognition that not all proposed systems may be implemented,²⁶ it would be neither efficient nor in the public interest for the Commission to make completion of complex sharing arrangements a *prerequisite* to granting the regulatory certainty that Second Round applicants need to develop their systems.

Finally, segmentation conforms to the Commission's recently commenced proceeding to develop new satellite licensing procedures in order to reduce licensing time.²⁷ In that proceeding, the Commission recognized the negative economic cost of allowing the licensing process to delay the introduction of services to the public.²⁸ To remedy the current processing round situation where it can take years to issue licenses, the Commission proposed segmenting spectrum as the means for issuing licenses when, as in the instant situation, applicants are unable to negotiate independently a sharing mechanism.²⁹ The Commission found that segmentation is just as applicable to NGSO systems as it was in the 2 GHz Order for MSS systems.³⁰ Accordingly, the Commission should use segmentation to license Second Round systems (and, if

²⁶ Notice, ¶ 15.

²⁷ *Satellite Streamlining NPRM*, ¶ 3. The Commission also explained that streamlining its licensing process would "help ensure that the United States will continue to meet its International Telecommunication Union (ITU) treaty obligations." *Id.*

²⁸ *Satellite Streamlining NPRM*, ¶ 13; *see also* note 7 *infra*.

²⁹ *Satellite Streamlining NPRM*, ¶ 78.

³⁰ *Satellite Streamlining NPRM*, ¶ 47.

appropriate, Teledesic's newly proposed system), so that they can initiate new competitive services that satisfy the ITU deadline.

IV. AVOIDANCE OF IN-LINE INTERFERENCE EVENTS WOULD ALLOW REGULATION TO UNNECESSARILY DICTATE THE FORM OF COORDINATION AND, ULTIMATELY, DELAY THE LICENSING AND INITIATION OF KA-BAND NGSO FSS SERVICE

In the *Notice*, the Commission acknowledged the “complexity of managing multi-constellation in-line interference” and sought comment on the “impact this complexity may have on system designs and commercial feasibility.”³¹ In particular, the FCC questioned whether the costs imposed by the switching protocols and frequency selection algorithms needed to make the avoidance of *In-Line Events* possible would negate the benefits of the sharing option.³² While @contact agrees that the *In-Line Events* mechanism is one possible means by which NGSO licensees may ultimately choose to coordinate their systems, the imposition of such a regime at this late stage in the Second Round is neither wise nor appropriate. Indeed, given the extensive additional study that would certainly be required to develop an appropriate standard, the risks of imposing *by rule* a standard that could prove to be incorrect, and the urgent need to proceed immediately with the development of systems, the public interest would best be served by giving licensees the *discretion* to consider privately whether implementation of an *In-Line Events* avoidance regime is the most appropriate method by which they could maximize their service offerings.

³¹ *Notice*, ¶ 32.

³² *Id.*

As the Commission recognized, before licenses could be issued under an *In-Line Events* avoidance methodology, it would first “need to establish an unambiguous technical definition.”³³ Defining a workable “coordination threshold” for in-line events will be an arduous and time-consuming task that could not be completed reasonably and accurately on the basis of currently available data.³⁴ NGSO-NGSO interference has been studied for many years by ITU Working Parties, but given the complexities involved to date there is no universally accepted trigger below which coordination is not required. Although the levels defined in ITU-R Recommendation S.1323-1 represent a reasonable theoretical *baseline* in interference discussions, it is not sufficiently mature to provide a workable *definition*.³⁵ The Recommendation defines protection according to availability, which will vary based on type of service, carrier, geographic location, antenna size, rain zone, and elevation angle. Therefore, if the Recommendation were truly the basis for the definition of the “event”, it would have a different size for all of these diverse

³³ *Id.*, ¶ 29.

³⁴ Indeed, the delay could endure for a lengthy period of time. In the Ku-band NGSO FSS sharing proceeding, Teledesic explained that the “unusually technical nature” of avoiding in-line interference events necessitated the initiation of a *subsequent* rulemaking where parties would have the opportunity to comment on the proposed in-line interference rules. *Comments of Teledesic LLC*, n.2, *Establishment of Policies and Service Rules for the Non-Geostationary Satellite Orbit, Fixed Satellite Service in the Ku-Band*, IB Docket No. 01-96, (filed July 5, 2001).

³⁵ The definitions for interference parameters ultimately agreed upon by the Commission and affected operators also may differ substantially from initial ITU recommendations. For example, the equivalent power flux density (epfd) levels finally adopted to protect GSOs from NGSOs in bands where Article S22.2 applies were, in the end, quite different from ITU-R Recommendation S.1323-1, and took years to develop. Even where industry has been able to achieve consensus due to the presence of readily understood interference concepts, such as blanket earth station licensing in Ka-band GSO FSS, the negotiated levels, which were achieved only after protracted discussions, are not stated in terms of the ITU-R Recommendation S.1323-1 and are technically distinct from those levels. In recognition of the complexities of determining an appropriate definition, Skybridge proposed a simple angular definition of an event in the Ku-band proceeding. This, of course, is not optimal because it will overprotect in some cases and not provide sufficient protection in others.

conditions. And, assuming the worst-case of all factors, it would lead to events that are defined more broadly than necessary.

Moreover, certain facts necessary to coordinate successfully are presently unknown, may not be determined until a very late stage in the deployment process, and could change after launch. For example, the technical characteristics of earth stations to be deployed may change, which could affect calculated avoidance angles. Defining in-line events among all existing applicants and Teledesic now may also be unnecessary as well as premature. As the Commission recognized, it is “possible, if not likely, that not all proposed systems will be implemented.”³⁶

Imposing avoidance of *In-Line Events* could also unnecessarily involve constant regulatory entanglement in the coordination process. For example, Teledesic’s modification application proposes a phased implementation of services and two distinct constellations. As Teledesic introduces its second system, the constellation and/or the avoidance angles would have to change. Consequently, use of *In-Line Events* as a requirement of licensing could actually frustrate future coordination because proposed system parameters may continue to change, which means that a predictable operating environment may not be defined until after the issuance of Second Round licenses.

Every day consumed in an effort to develop the complex criteria needed to implement an *In-Line Events* regime further postpones the introduction of competitive services to the public and threatens the loss of U.S. ITU date priority. The Commission typically affords GSO systems six years to launch after the receipt of licenses. NGSO systems are inherently more complex and, therefore, could reasonably be expected to take at least as much time to be implemented.

³⁶ Notice, ¶ 15.

Even if authorizations were issued today, Second Round licensees would only have a little over three years to enter into a contract, commence construction and launch satellites. Operators would have no chance of meeting the ITU date if they were forced to await the outcome of all the proceedings and deliberations that would be required to develop an appropriate In-Line standard. These substantial burdens would be borne unnecessarily in this case because segmentation provides an effective and immediate licensing solution. Accordingly, it would harm the public interest in new competitive services to dictate by rule at this time an *In-Line Events* coordination threshold for Ka-band NGSO FSS.³⁷

V. A HOMOGENEOUS CONSTELLATIONS APPROACH WOULD LIMIT FLEXIBILITY IN SYSTEM IMPLEMENTATION AND POTENTIALLY IMPOSE UNNECESSARY AND BURDENSOME DESIGN CHANGES

Like *In-Line Events*, *Homogeneous Constellations* is more appropriately considered post-licensing as a potential sharing tool among NGSO operators, rather than as a mandatory regime for allocating spectrum. Under *Homogeneous Constellations*, the Commission would dictate the number and nature of constellation design standards, divide available spectrum among the selected constellation designs, and then provide applicants time to design new systems and submit conforming applications. As the FCC recognized, the systems as filed include a “wide range of constellation designs,”³⁸ including a variety of orbital altitudes, orbital inclinations and

³⁷ There are substantial differences between the Ku and Ka-bands that necessitate that the Commission evaluate the band sharing plans separately. In particular, NGSO systems in the Ku-band must already employ satellite diversity to protect GSO satellites and frequency flexibility to protect terrestrial services. These existing techniques may be relied upon, at little extra cost, to avoid in-line Ku-band NGSO events. The Ka-band spectrum at issue in this *Notice*, in contrast, is reserved exclusively for NGSO FSS systems. As a result, if the Commission should decide to license Ku-band NGSO FSS applicants on the basis of *In-Line Events*, that determination would not be dispositive for Ka-band.

³⁸ *Notice*, ¶ 34.

number of satellites.³⁹ Consequently, *Homogeneous Constellations* is not technologically neutral and may have a disparate impact on Second Round systems, depending on the nature of modifications necessary for a system to comply with the chosen constellation standard.

Allocating spectrum based on *Homogenous Constellations* would thus constrain design and operational flexibility contrary to the Commission's policy objectives in this proceeding. While operators may ultimately choose to homogenize constellations to share common spectrum, the Commission should not force all licensees to conform to specified orbits as a condition to receiving a license. This would merely delay the commencement of service while parties modified their systems to come into compliance with required parameters. In fact, the Commission should preserve the current diversity inherent in the proposed system designs, as would occur with segmentation, to provide licensees with the greatest number of options to explore sharing among all or desired groups of operators. Furthermore, as would be the case with the *In-Line Events* option, implementing *Homogeneous Constellations* would be unnecessarily time consuming – a luxury precluded by the looming ITU deadlines – and inconsistent with the Commission's corollary proceeding to expedite licensing.⁴⁰

In sum, Second Round licensees (and Teledesic) should be free to consider, but not required to implement, *Homogenous Constellations* as a sharing option to maximize the use of spectrum as guided by their respective business plans. Only segmentation provides that highly desirable result.

³⁹ As filed, the Second Round applicants seek to operate 4 MEO constellations and 1 LEO NGSO system. The 4 MEO systems differ with respect to number of satellites (*i.e.*, 15, 16, 20, and 32), altitude (10,400 km, 10,352 km, 10,349 km and 10,355 km), and inclination (45 degrees, 50 degrees, and 55 degrees). In addition, Teledesic's proposed new MEO system has 30 satellites, at an altitude of 10,930 km and an inclination of 46.7 degrees.

⁴⁰ *Satellite Streamlining NPRM.*

VI. SERVICE RULES

A. Financial Qualifications

@contact agrees that the Commission should waive its financial qualification requirement for Second Round Ka-Band NGSO FSS applicants because all proposals can be accommodated.⁴¹ Waiver will afford all applicants the opportunity to launch their systems and further the Commission's objective of allowing the market to determine the success of particular NGSO FSS systems.⁴² The approach is also consistent with the FCC's proposal in the *Satellite Streamlining NPRM* to eliminate the financial qualification requirements. In that proceeding, the Commission concluded properly that milestones provide a more reliable and accurate means of monitoring licensees and ensuring that they proceed with the construction, launch and operation of their satellite systems.⁴³

In the event the Commission preserves its financial demonstration requirement, however, the basic qualifications should be strengthened. Specifically, applicants should demonstrate that internal assets or committed financing sufficient to cover construction, launch, and first-year operating costs have not been previously committed for any other purpose. Strict compliance with this standard would prevent applicants from referencing funds already allocated for the construction and operation of different satellite systems or other projects entirely. As a result, the proposal would fairly protect against the warehousing of spectrum by parties who do not actually have the financial means to implement all requested systems.

⁴¹ Notice, ¶ 38 (“we are not proposing a strict financial qualification standard for this service with respect to Second Round NGSO FSS applicants.”).

⁴² *Id.* at ¶ 13.

⁴³ *Satellite Streamlining NPRM*, ¶ 102.

B. Implementation Milestones

Under ordinary circumstances, @contact would favor application of the implementation milestones set forth in the *Notice* to NGSO Ka-band FSS systems:

- one year: enter into a non-contingent satellite manufacturing contract for the authorized system
- two years: complete critical design review
- two and one half years: begin construction of all satellites in the system
- three and one half years: complete construction and launch of first two satellites
- six years: launch and operate entire system;⁴⁴

In light of other pressing U.S. interests at stake in this case, however, @contact favors linking the milestones to the ITU bring into use date. Accordingly, licensees should be required to launch their systems by the relevant ITU bring into use date. To enforce this approach, the Commission should require licensees to demonstrate that they are on a launch manifest in time to satisfy the applicable ITU deadline.

In addition, @contact supports strict monitoring of milestone compliance and, thus, agrees with the Commission that operators should be required to submit affidavits and other relevant documents—*e.g.*, construction and launch contracts—demonstrating milestone compliance within 10 days of a milestone. Failure of a licensee to comply with a milestone should result in automatic license cancellation, with no further action required on the part of the Commission.⁴⁵

C. Report Requirements

To meet the Commission's objectives of preventing spectrum warehousing and preserving ITU priority, @contact urges the Commission to adopt quarterly—rather than

⁴⁴ *Notice*, ¶ 40.

⁴⁵ *See* 47 C.F.R. § 25.161.

annual—reporting requirements for Ka-band NGSO FSS licensees. Quarterly reports will enable the Commission to monitor the progress of licensees and, where found appropriate, to enforce the milestone rules. Any *de minimis* increased burden resulting from the filing of quarterly reports is far outweighed by the public interest benefit of ensuring, in these unusual circumstances, that licensees timely implement their systems. Consequently, the Commission should require Ka-band NGSO FSS licensees file *quarterly* reports describing: the status of satellite construction and anticipated launch dates, including any major delays or problems encountered, and a detailed description of the use made of each satellite in orbit.⁴⁶

D. Orbital Debris Mitigation

@contact shares the Commission's concerns regarding orbital debris and supports the disclosure of applicant's orbital debris mitigation plans, consistent with the requirements adopted in the *2 GHz Report and Order*.⁴⁷

E. System License And License Term

@contact supports the Commission's proposal to establish a filing window process for applying for replacement satellites.⁴⁸

VII. CONCLUSION

For these reasons, @contact respectfully requests that the Commission adopt segmentation as the means of licensing and coordinating Second Round systems and, in the event its modification application is not deferred to a third processing round, Teledesic.

⁴⁶ @contact supports excluding unscheduled satellite outages from the reporting requirements. *Notice*, ¶ 42.

⁴⁷ *Id.*, ¶ 43. *See also Mitigation of Orbital Debris*, FCC 02-80, IB Docket No. 02-54 (March 18, 2002) (Notice of Proposed Rulemaking).

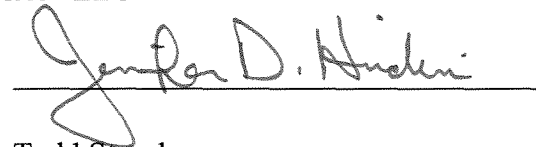
⁴⁸ *Notice*, ¶ 44.

Segmentation will enable the Commission to issue licenses now, satisfy all of the Notice's objectives, and preserve *In-Line Events* and *Homogeneous Constellations* as means of sharing the entire 1,000 MHz of spectrum post-licensing. In this manner, the Commission will provide licensees with the best opportunity to bring new state-of-the-art services to U.S. consumers as promptly as possible.

Respectfully submitted,

@CONTACT LLC

By:

A handwritten signature in dark ink, appearing to read "Jennifer D. Hindin", is written over a horizontal line.

Todd Stansbury
Jennifer Hindin
Rebekah Goodheart
of
Wiley Rein & Fielding LLP
1776 K Street, N.W.
Washington, DC 20006-2304
202.719.7000
Its Attorneys

April 3, 2002

CERTIFICATE OF SERVICE

I, Christopher E. Ryan, a legal assistant in the law firm of Wiley Rein & Fielding LLP do hereby certify that I have on this 3rd day of April, 2002 caused a copy of the foregoing "Comments of @contact LLC" to be served either by first class mail, postage pre-paid, or by hand delivery (*) upon the following:

Mark A. Grannis
Kelly S. McGinn
Harris, Wiltshire & Grannis LLP
1200 Eighteenth Street, N.W.
Washington, DC 20036
Counsel to Teledesic LLC

Tom Tycz *
International Bureau
Federal Communications Commission
445 12th Street, S.W., Room 6-A665
Washington, D.C. 20554

Steven Baruch
Leventhal, Senter & Lerman LLC
2000 K Street, N.W., Suite 600
Washington, DC 20036
Counsel for TRW, Inc.

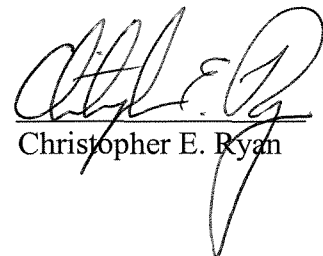
Jennifer Gilsenan *
International Bureau
Federal Communications Commission
445 12th Street, S.W.
Room 6-A520
Washington, D.C. 20554

John P. Janka
Latham & Watkins
555 11th Street, N.W., Suite 1000
Washington, DC 20004
Counsel for Hughes Communications Inc.

Alyssa Roberts *
International Bureau
Federal Communications Commission
445 12th Street, S.W., Room 6-B451
Washington, D.C. 20554

Jeffrey H. Olson, Esq.
Paul, Weiss, Rifkind, Wharton & Garrison
1615 L Street, N.W., Suite 1300
Washington, DC 20036
Counsel for SkyBridge II, LLC

Jennifer A. Warren
Lockheed Martin Corporation
1725 Jefferson Davis Highway
Crystal Square 2, Suite 403
Arlington, VA 22202



Christopher E. Ryan